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BASE A1 A1-A2, 12-D5B, 12-W7D, 14s-B, E5-E17, G2, A3A,
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- 7/20, C09C 1/00, C09D 5/36, C09K 19/28, C14C 9/00, C09D 17/00,
- 5/20, C14C 1/00, B29C 1/36
2-A2B)

Platelet cholesteric multilayer pigments for use in effect lacquers - comprising light-absorbing pigment between two cholesteric layers (Ges.)

C99-049418

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NOVELTY

A platelet-form cholesteric multilayer pigment has layers A¹/B/A² where A¹ and A² are cholesteric layers and B is an intermediate layer partially or wholly absorbing the light transmitted by A¹ and A².

An INDEPENDENT CLAIM relates to the preparation of the pigment by depositing the layers simultaneously or sequentially on a carrier, hardening them, removing the carrier and pulverising the layers.

USE

cooling below the T_g, A¹ and A² can have the same or different optical properties (eg wavelength reflection) and the thickness of each is 0.5-20 (especially 2-4) µm. A¹ and A² are typically based on liquid crystal monomers such as those of DE19602848 or are polycarbonates, polyesters or copolyisocyanates.

Intermediate layer (B) is 0.2-5 (especially 0.5-2.5) µm thick and the multilayer pigment has a diameter of 5-500 (especially 10-30) µm, while pigment (B) is an (in)organic, preferably black and/or magnetic, absorption pigment, optionally in a binder. Manufacture of the pigment involves deposition of the layers on a carrier by (air) doctor-, air knife-, squeeze-, impregnation-, roller-, gravure-, kiss-, cast-, spray- or spin-coating or by printing such as relief-, intaglio-, flexo- or offset-printing, especially by cast-coating or offset printing.

EXAMPLE

None given. (RB)
(30pp1958DwgNo.0/0)

At01-A2, 12-D5B, 12-W7D, 14s-B, E5-E17, G2, A3A,
2-A2B)

The pigments are used as effect lacquers or inks and/or are used on vehicles, leisure or sports goods, in optical elements such as polarisers or filters, in cosmetics, textiles, leather or jewelry, in guns, writing implements or spectacles, in building or in domestic or printed goods. They can also be used in forgery-proofing or security-marking of articles.

ADVANTAGE

Effect pigments are provided which do not suffer from the defects of prior art pigments such as poor coverage; they do not require additional pigments in the cholesteric matrix nor a coloured background to show good absorption properties.

POLYMERS

Layers A¹ and A² comprise in the hardened state (a) a cholesteric polymerisable monomer; (b) an achiral, nematic polymerisable monomer and a chiral compound; (c) a cholesteric, crosslinkable polymer; or (d) a cholesteric polymer in a polymerisable diluent; (e) a cholesteric polymer whose cholesteric phase can be frozen by rapid

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